

ABSTRACT

A safety system for a host vehicle includes a pre-crash sensing system generating host vehicle dynamics data, a target vehicle threat assessment, and target vehicle bumper or doorsill location data. A ride-height, Dynamic State Self-Turning (DSST) controller generates a reference ride-height signal as a function of the host vehicle dynamics data, target vehicle threat assessment, and target vehicle bumper or doorsill location data. A Rule-Based Height Regulator (RBHR) controller is feedback communication with an adjustable suspension system, is programmed to continuously adjust the host vehicle ride-height with reference to the ride-height signal, and the host vehicle bumper location to optimize the collision conditions between the two vehicles until just prior to impact.